What is claimed is:

1. A video data transmission/reception system comprising a transmission-side apparatus and a plurality of reception terminals, the transmission-side apparatus transmitting video data that has been compressed using motion compensation interframe prediction, and the reception terminals receiving the video data and decoding the received video data, wherein

the transmission-side apparatus includes:

a first encoding unit operable to apply intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data;

a second encoding unit operable to apply, in parallel with the encoding processing by the first encoding unit, intraframe encoding processing to a frame of the moving image data, to generate substitute I frame data; and

a transmission unit operable to transmit the video data and the substitute I frame data to the plurality of reception terminals,

wherein when the transmission unit is to resume transmission of the video data to one of the reception terminals after temporarily interrupting transmission of the video data to the reception terminal, the transmission unit transmits at

least one frame's worth of the substitute I frame data to the reception terminal before resuming transmission of the video data, and

the reception terminal, when the transmission unit is to resume the temporarily interrupted transmission of the video data, receives the transmitted substitute I frame data, decodes the received substitute I frame data, and uses the decoded substitute I frame data as reference frame data to decode video data that is received after resumption of transmission.

2. A video data transmission apparatus that transmits video data that has been compressed using motion compensation interframe prediction to a plurality of reception terminals, comprising:

a first encoding unit operable to apply intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data;

a second encoding unit operable to apply, in parallel with the encoding processing by the first encoding unit, intraframe encoding processing to a frame of the moving image data, to generate substitute I frame data; and

a transmission unit a transmission unit operable to transmit the video data and the substitute I frame data to the plurality of reception terminals, and when the transmission

unit is to resume transmission of the video data to one of the reception terminals after temporarily interrupting transmission of the video data to the reception terminal, the transmission unit transmits at least one frame's worth of the substitute I frame data to the reception terminal before resuming transmission of the video data.

3. The video data transmission apparatus of Claim 2, further comprising:

an option data transmission unit operable to transmit option video data to the reception terminal, in parallel with the transmission of the video data,

wherein the interruption of video data transmission to the reception terminal is caused by the transmission of the option video data.

4. The video data transmission apparatus of Claim 3, wherein

the option data transmission unit

includes an information collection sub-unit operable to collect, from each of one or more of the reception terminals, information about preferences of a user of the reception terminal, and

based on the collected information, selects contents of option data to be transmitted.

5. The video data transmission apparatus of Claim 3, wherein the transmission unit includes

a broadcast transmission sub-unit operable to broadcast a same data to a plurality of transmission destinations; and

an individual transmission sub-unit operable to transmit individual data to an individual transmission destination, and

uses the broadcast transmission sub-unit to transmit the video data, and the individual transmission sub-unit to transmit the substitute I frame data, and

the option data transmission unit transmits the option video data in an individual transmission manner.

6. The video data transmission apparatus of Claim 5, wherein the transmission unit includes

a switch sub-unit operable to exempt a reception terminal to which substitute I frame data or option video data is being transmitted from being a target of transmission of the video data by the broadcast transmission sub-unit.

7. The video data transmission apparatus of Claim 3, wherein

the option data transmission unit includes

an insertion sub-unit operable to transmit secondary option data part way through transmission of the option data; and

a third encoding sub-unit operable, after transmission of the secondary option data ends and before transmission of the option data resumes, to generate option data substitute I frame data that corresponds to at least one frame of the option data starting from a frame that is a first frame after transmission resumption,

wherein when transmission of the option data is to resume after the transmission of the secondary option data ends, the option data transmission unit transmits the option data substitute I frame data to the reception terminal before transmission of the option data resumes.

8. The video data transmission apparatus of Claim 2, wherein

the first encoding unit and the second encoding unit are realized in separate encoders.

9. The video data transmission apparatus of Claim 2, wherein

the transmission unit determines how many frames of substitute I frame data to transmit to the reception terminal before resuming transmission of the video data, based on a GOP

structure of the video data, and in particular, based on a frequency of appearance of frames having an I attribute or a P attribute.

10. A video data transmission apparatus that transmits video data that has been compressed using motion compensation interframe prediction to a plurality of reception terminals, comprising:

a first encoding unit operable to apply intraframe encoding processing to a frame of moving image data, to generate intraframe encoded video data;

a second encoding unit operable to apply interframe encoding processing to a frame of moving image data, to generate interframe encoded video data;

a video data generation unit operable to generate the video data from the intraframe encoded video data and the interframe encoded video data; and

a transmission unit operable to transmit the video data to the plurality of reception apparatuses,

wherein when the transmission unit is to resume transmission of the video data to one of the reception terminals after temporarily interrupting transmission of the video data to the reception terminal, the transmission unit transmits at least one frame's worth of the intraframe encoded video data

to the reception terminal as substitute I frame data before resuming transmission of the video data.

11. A video data transmission/reception system comprising a plurality of video data provision apparatuses, a plurality of reception terminals, and a distribution server, the video data provision apparatuses transmitting video data that has been compressed using motion compensation interframe prediction, each reception terminal receiving the video data from any one of the video data provision apparatuses and decoding the received video data, and the distribution server conveying the video data between the video data provision apparatuses and the reception terminals, wherein

each video data provision apparatus includes:

a first encoding unit operable to apply intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data; and

a second encoding unit operable to apply, in parallel with the encoding processing by the first encoding unit, intraframe encoding processing to each of a plurality of frames of the moving image data, to generate substitute I frame data, and

the distribution server includes:

a switch request reception unit operable to receive a

request from one of the reception terminals to switch video data received by the reception terminal to different video data; and

a switch transmission unit operable, on the switch request reception unit receiving the request, to stop transmission of the video data being transmitted to the request-originating user terminal, obtain substitute I frame data from a video data provision apparatus that is to provide the different video data, transmit the obtained substitute I frame data to the user terminal, and transmit the different video data to the user terminal.

12. A distribution server in a video data transmission/reception system that further includes a plurality of video data provision apparatuses and a plurality of reception terminals, the video data provision apparatuses transmitting video data that has been compressed using motion compensation interframe prediction, each reception terminal receiving video data from any one of the video data provision apparatuses, and the distribution server conveying the video data between the video data provision apparatuses and the reception terminals, the distribution server comprising:

a switch request reception unit operable to receive a request from one of the reception terminals to switch video data received by the reception terminal to different video data; and

a switch transmission unit operable, on the switch request reception unit receiving the request, to stop transmission of the video data being transmitted to the request-originating user terminal, obtain substitute I frame data from a video data provision apparatus that is to provide the different video data, transmit the obtained substitute I frame data to the user terminal, and transmit the different video data to the user terminal.

13. A video data provision apparatus in a video data transmission/reception system that includes a plurality of video data provision apparatuses, a plurality of reception terminals, and a distribution server, the video data provision apparatuses transmitting video data that has been compressed using motion compensation interframe prediction, each reception terminal receiving video data from any one of the video data provision apparatuses, and the distribution server conveying the video data between the video data provision apparatuses and the reception terminals, the video data provision apparatus comprising:

a first encoding unit operable to apply intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data;

a second encoding unit operable to apply, in parallel with the encoding processing by the first encoding unit, intraframe encoding processing to each of a plurality of frames of the moving image data, to generate substitute I frame data; and

a transmission unit operable to transmit the video data to the distribution server, and, when one of the reception terminals requests to switch video data being received to the video data being transmitted by the transmission unit, transmit at least one frame of substitute I frame data to the reception terminal via the distribution server, before the switch.

14. An encoder that compresses moving image data using motion compensation interframe prediction, comprising:

a first encoding unit operable to apply intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data; and

a second encoding unit operable to apply, in parallel with the encoding processing by the first encoding unit, intraframe encoding processing to each of a plurality of frames of the moving image data, to generate substitute I frame data.

15. An encoder that compresses moving image data using motion compensation interframe prediction, comprising:

a first encoding unit operable to apply intraframe encoding processing to a frame of moving image data, to generate intraframe encoded video data;

a second encoding unit operable to apply interframe encoding processing to a frame of moving image data, to generate interframe encoded video data;

an encoded video data generation unit operable to generate encoded video data from the intraframe encoded video data and the interframe encoded video data; and

a substitute data generation unit operable to generate substitute I frame data from the intraframe encoded video data.

16. A video data transmission/reception method used by a transmission-side apparatus and one of a plurality of reception terminals in a video data transmission/reception system in which the transmission-side apparatus that transmits video data that has been compressed using motion compensation interframe prediction, and the plurality of reception terminals receive the video data and decode the received video data, the method comprising:

a first encoding step, in the transmission-side apparatus, of applying intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data;

a second encoding step, in the transmission-side apparatus, of applying, in parallel with the first encoding step, intraframe encoding processing to each of a plurality of frames of the moving image data, to generate substitute I frame data;

a video data transmission step, in the transmission-side apparatus, of transmitting the video data to a reception-side apparatus;

a transmission interruption step, in the transmission-side apparatus, of interrupting transmission of the video data to the reception-side apparatus;

a substitute data transmission step, in the transmission-side apparatus, of transmitting at least one frame's worth of the substitute I frame data to the reception terminal;

a substitute data decoding step, in the reception terminal, of decoding the substitute I frame data;

a video data retransmission step, in the transmission side apparatus, of resuming transmission of the video data to the reception terminal; and

a video data decoding step, in the reception terminal, of decoding the video data received after resumption of transmission, using data obtained as a result of executing the substitute data decoding step, as reference frame data.

17. A program for having executed in a computer a video data transmission method used by a transmission-side apparatus in a video data transmission/reception system in which the transmission-side apparatus that transmits video data that has been compressed using motion compensation interframe prediction, and a plurality of reception terminals receive the video data and decode the received video data, the method comprising:

a first encoding step of applying intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data;

a second encoding step of applying, in parallel with the first encoding step, intraframe encoding processing to each of a plurality of frames of the moving image data, to generate substitute I frame data;

a video data transmission step of transmitting the video data to a reception-side apparatus;

a transmission interruption step of interrupting transmission of the video data to the reception-side apparatus;

a substitute data transmission step of transmitting at least one frame's worth of the substitute I frame data to the reception terminal; and

a video data retransmission step of resuming transmission

of the video data to the reception terminal.